Delivering a zero-carbon future for low-density homes

Community air-source heat pumps

At GTC we're committed to achieving efficient, and sustainable, heat network solutions for our customers across low-density, new-build housing and mixed-use developments.

Heat networks aren't new, they have been used around the world for many years. There are already over 14,000◊ heat networks in the UK supplying heat to around 500,000◊ customers. The majority of those networks are in our towns and city centres but we're ready to start the journey, in partnership with property developers and planners, outside our urban areas.

Business and Energy Minister Lord Callanan said:

Heat networks using heat pumps powered by clean, cheaper renewable energy generated here in the UK are cutting emissions and helping us take charge of our energy security. Low carbon heat networks can help households and businesses move away from expensive fossil fuels. Systems like this one developed by GTC will accelerate the rollout of the technologies we need to achieve this.

◊ Source: Department for Business, Energy & Industrial Strategy (2018). Energy Trends: March 2018 - Special Feature Article - Experimental Statistics on Heat Networks

The road to **net zero**

Heating homes and workplaces currently accounts for about 23%[Δ] of greenhouse gas emissions in the UK.

Leaving fossil fuels behind us and reaching net zero is now a top priority for the UK with Building Regulations supporting the transformation.

With an increasing number of homes throughout the UK being supplied by heat networks, Ofgem has been appointed to regulate the sector, and this is expected to be in place by 2025, providing ultimate customer protection on price and performance.

[Δ] Source: BEIS (2021) - Final UK Greenhouse Gas Emissions National Statistics: 1990 to 2019
Note: Dates may vary in Scotland

Transformational: a practical, cost effective and zero carbon ready solution for low-density

Our community heat hub solution uses central air-source heat pumps, to generate low carbon heat, and a network of pipes to deliver heat and hot water to every home on a development.

Air-source heat pumps take heat from the air and boost the temperature to then provide heated water for use in the network. The technology is highly efficient and very reliable, with millions of units used across the world.

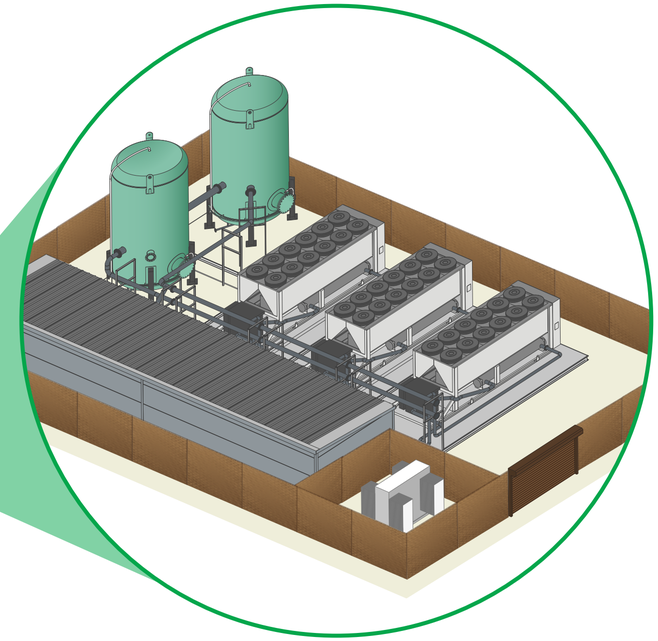
Until recently, heat networks have operated with water temperatures of around 85-90°c. New building regulations and industry guidelines now allow us to move hot water at lower temperatures, making plastic pipes a practical long-term solution and heat networks a very competitive option for low-density housing.

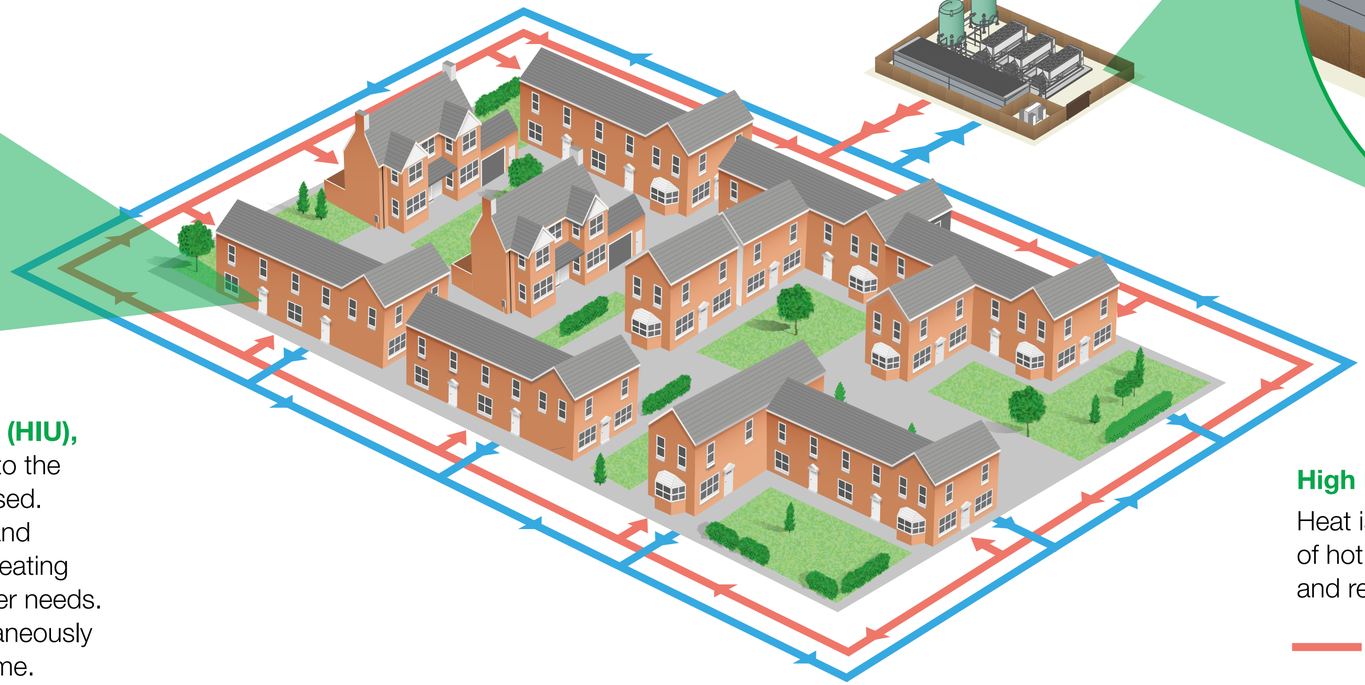
Our innovative new design uses highly insulated plastic pipes to carry water at 60°c, making it a much more cost-effective way to heat sites while still keeping our customers' homes reliably warm.

The community heat hub **explained**

Community Heat Hub

Low carbon heat is produced in a community heat hub using zero carbon ready, large-scale, air-source heat pumps, powered by low carbon electricity.





Each home has a Heat Interface Unit (HIU), which transfers heat from the network into the home and keeps track of what's being used. The HIU is similar in size to a gas boiler and delivers heat to radiators, or underfloor heating and domestic hot water to meet customer needs. Heat and hot water are delivered instantaneously without any need for a cylinder in the home.

High Efficiency Network

Heat is pumped to each home, in the form of hot water, using our underground flow and return pipe network

Heat supplied from and returning to the community heat hub

Being part of a low **carbon community**

Zero carbon living

Heat networks help to reduce carbon emissions by removing the need for individual gas boilers and providing locally sourced heating and hot water. Homes on our networks will be carbon-zero ready, giving our customers reassurance that they can transition to zero carbon heating without further work in their home.

Clean and reliable

Our solution uses modern technologies to produce clean, simple, safe and reliable heat. We guarantee our supply of heat and hot water 24/7/365 – even in the coldest and most severe weather. And, the community heat hub has back-up boilers and thermal stores ready for every eventuality.

Homeowner protection

The UK Government will regulate heat networks from 2023, ensuring customers are treated fairly and providing protection on the price they pay for their heat and the level of service they receive. In the meantime all of our networks will be Heat Trust registered.

Peace of mind

We provide a worry-free service for our customers. There are no additional costs for breakdown, maintenance or replacement parts, as the whole heat system is included in the price of the service.

Smart metering

Our customers will always be in control of what they use – a hassle-free, guaranteed supply of low-carbon heat and hot water.

Customer care

We'll always be there where you need us. Our UK-based team provides exceptional service for all our customers.

Feedback from our existing heat network customers

Very happy with the overall customer service and the management of my account

I found the customer services team very helpful. I would absolutely recommend them based on the service received

All of my issues were resolved within that one phone call – I was very impressed with the service

A green revolution for housing

Our community heat hub and network solution, delivered in partnership with property developers, will provide a sustainable heating solution that will significantly contribute to net zero action plans across the country.

Low carbon

Our heat networks will achieve 75-80% carbon savings from day one – ahead of the 2025 deadline for Future Home Standards.

Zero-carbon ready

As the electricity grid becomes zero carbon, so will our heat network – there's no need for retrofitting or bolt-on technology.

Future proof

When technologies advance, we can simply add them to the network making this a long-term sustainable solution, with no need for disruptive works later on – this could include a seamless transition to hydrogen gas boilers in the community heat hub.

Lead the way

Our innovative solution will showcase low-carbon technology in action, and benefit the wider community.

Cost effective

No public funding, loans or grants are needed.

Bespoke design

Our community heat hubs can be individually designed to meet planning preferences or specific development site characteristics.

A low carbon heat solution for a local community.